

Flora Protection Order - bryophytes

Brachydontium trichodes

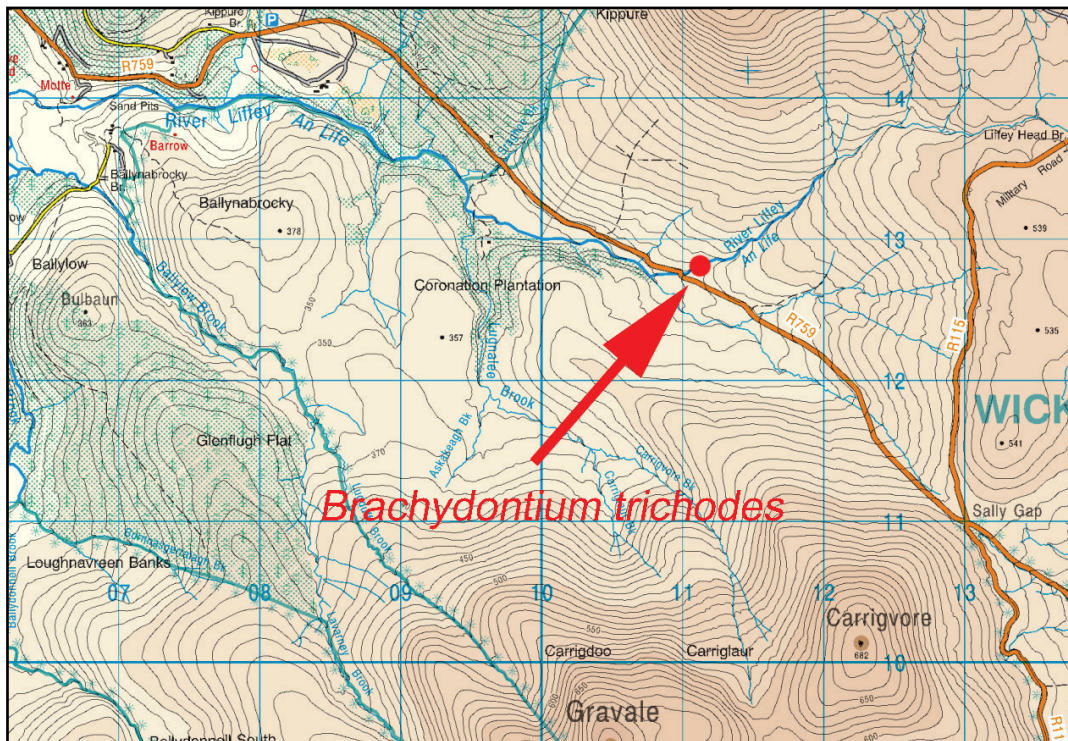
Status: Endangered; listed on the Flora Protection Order

Location: NW of Sally Gap, Co. Wicklow

Species Records

Taxon	Vice County number	Taxon Site	Locality / habitat	Grid Reference	Date	Recorder	Protected site
<i>Brachydontium trichodes</i>	20	07	River Liffey, NW of Sally Gap; on the side of a granite boulder on the NW bank of the river some 20m upstream of the public road bridge, alt 360m.	O11	2010.03.12	Denyer, J. & Rothero, G.	SAC002122
<i>Brachydontium trichodes</i>	20	07	NW of Sally Gap; By River Liffey	O1101612762	2015.12.01	Rory Hodd	SAC002122
<i>Brachydontium trichodes</i>	20	07	NW of Sally Gap; By River Liffey	O1104812779	2015.12.01	Rory Hodd	SAC002122

Location (1:50,000 Discovery map)



Ordnance Survey of Ireland Licence No EN 0059214
 © Ordnance Survey of Ireland Government of Ireland

Field Data Sheet – Rare and Threatened Bryophyte Survey 2015

Species <i>Brachydontium trichodes</i>	County Wicklow	6" Map Wi006	Discovery Map 56
Locality/ Site name Northwest of Sally Gap	Vice-county (No.) H20	SAC/NHA 002122 Wicklow Mountains SAC	
Grid ref (GPS, National Grid) (i) O1101612762(±3)	2005 Aerial Photo 3669-B	Recorder(s) R.L. Hodd	
Elevation (m) 350	Solid geology Granite	Survey date 01/12/2015	
Site description	Site consists of a relatively shallow river valley of the infant River Liffey, in which numerous boulders are scattered, upstream of the R759 running from Kilbride to the Sally Gap		
Population description	Occurs at two locations, as scattered shoots and small patches with occasional sporophytes, on the damp shaded sides of granite boulders, within 2 metres of the edge of the river.		
Associated species	Associated with <i>Racomitrium fasciculare</i> and <i>Kindbergia praelonga</i> .		
Vegetation (after Fossit, 2000)	ER3 Siliceous loose rock		
Current management	Low to moderate levels of grazing are taking place in the area, and a relatively recent burn has occurred.		
Threats	Few direct threats exist, strong burn could possibly damage populations, and dumping from the nearby road could also be a threat		
Conservation measures	Ensure dumping does not occur in vicinity.		
Ownership	Wicklow National Park		
Access	Located 10m from R759 road, where there is a large parking area beside the bridge.		
Other remarks	It is very likely that other populations remain undetected in the area, as there are many potentially suitable rocks.		

Additional GPS readings for the species

National Grid Letter	Easting	Northing	Comments
O	11048	12779	(±5) (ii) 350m alt.

Synonymous habitat/vegetation types :

First record and other comments:

The previous record at this location was made by J.L. Denyer and G.P. Rothero in 2010.

Photographs:



Photograph 1: Location of population (i) of *B. trichodes* alongside the River Liffey near Sally Gap, as indicated by red arrow.



Photograph 2: Group of boulders, on one of which *B. trichodes* grows, location indicated by red arrow.



Photograph 3: Boulder on which population (i) of *B. trichodes* grows, location of population indicated by red arrow.



Photograph 4: Habitat of population (ii) of *B. trichodes* on boulder near the River Liffey, location indicated by red arrow.

Maps and Aerial Photographs:

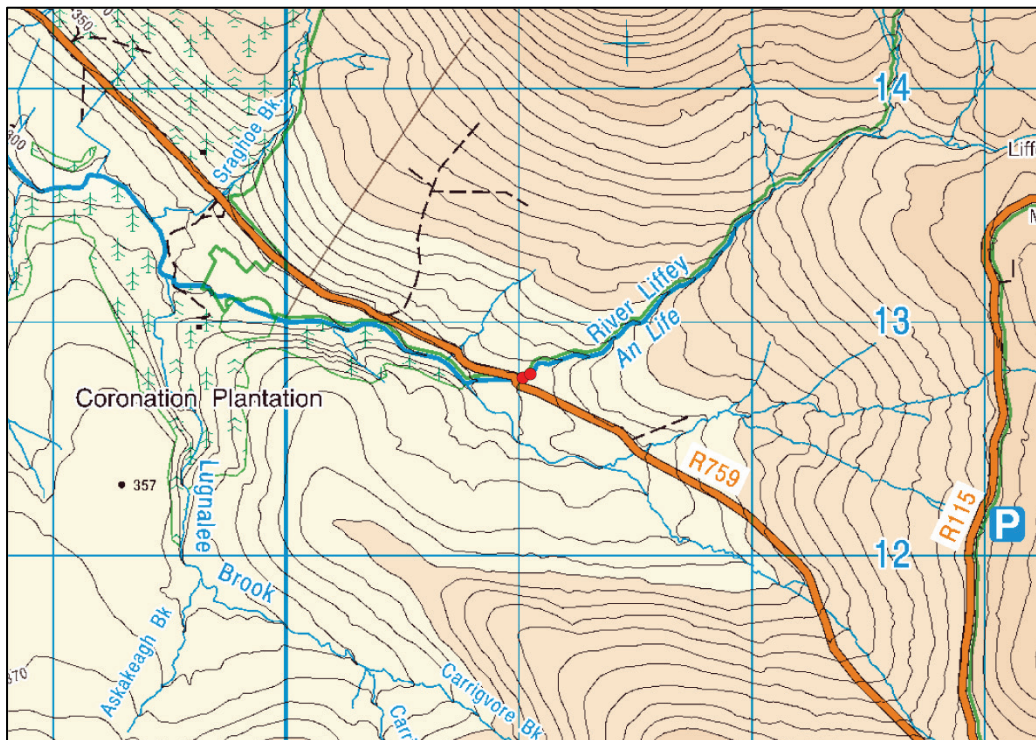


Figure 1: OSI Discovery Series map showing the locations of *B. trichodes* (marked by red dots) northwest of Sally Gap (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).

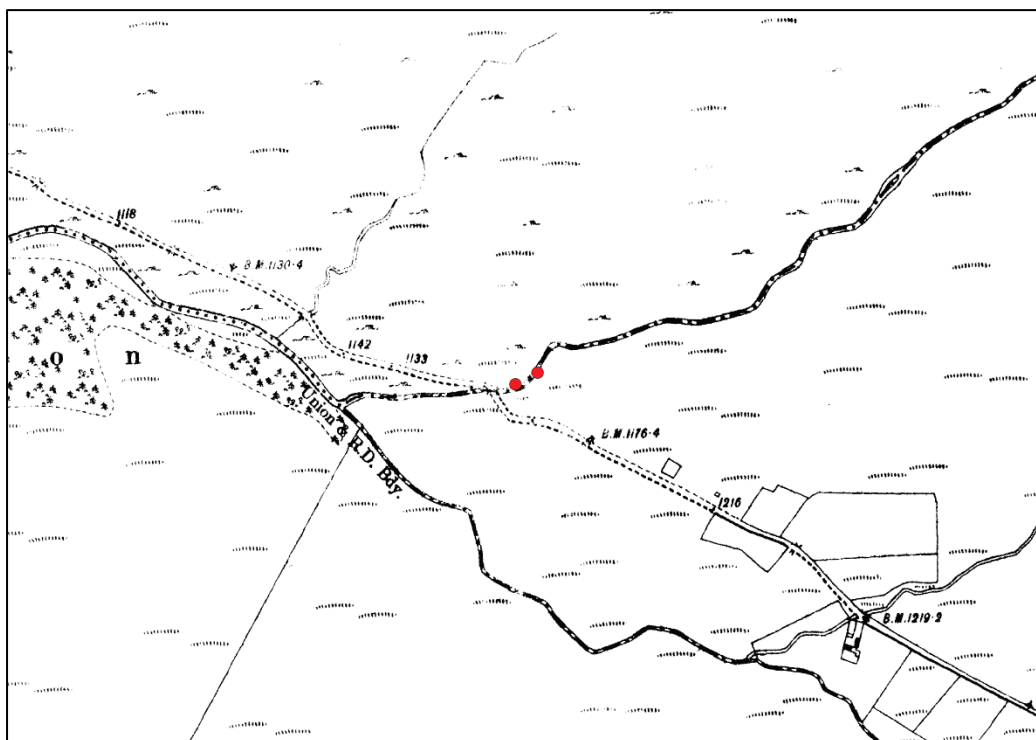


Figure 2: 6-inch map showing the locations of *B. trichodes* (marked by red dots) northwest of Sally Gap (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).



Figure 3: 1:5,000 map showing the locations of *B. trichodes* (marked by red dots) northwest of Sally Gap (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).



Figure 4: 2005 aerial photo showing the locations of *B. trichodes* (marked by red dots) northwest of Sally Gap (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).



Figure 5: Satellite image showing the locations of *B. trichodes* (marked by red dots) northwest of Sally Gap (Basemap source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community).

Management & Conservation

General

- Possibly vulnerable to eutrophication
- Competition from coarse vegetation

Potential site-specific threats/issues

- Low to moderate levels of grazing are taking place in the area, and a relatively recent burn has occurred. Few direct threats exist; a strong burn could possibly damage populations, and dumping from the nearby road could also be a threat.

Excerpt from:

Lockhart, N., Hodgetts, N. & Holyoak, D. (2012). *Rare and Threatened Bryophytes of Ireland*. Belfast: National Museums Northern Ireland Publication No. 028.

RARE AND THREATENED BRYOPHYTES OF IRELAND

Brachydontium trichodes (F.Weber) Milde

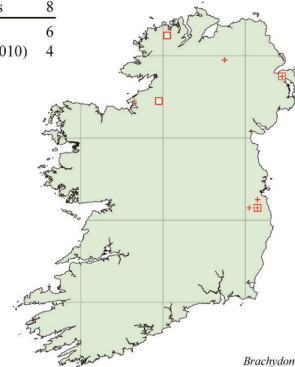
Bristle-leaf

syn. *Brachyodus trichodes* (F.Weber) Nees & Hornsch.

Status in Ireland: Endangered (B2a, bi, bii, iv); **Status in Europe:** Rare



Number of Hectads	8
+ Old (pre-1970)	6
□ Recent (1970–2010)	4



Brachydontium trichodes

Identification

B. trichodes is a minute olive green to yellowish-green or brownish acrocarpous moss that grows in small colonies on sheltered rock surfaces. The erect plants are only 1–2 mm high and grow in open patches (low turfs). The leaves are few in number and bristle-like, comprising an ovate-lanceolate basal part from which the costa extends in a long subula. Capsules are borne on an erect seta 2–3 mm tall. They are ovate to obloid, striate when mature and furrowed when dry and empty. Several species of *Seligeria* that occur mainly on more basic rocks are similar in general appearance to *B. trichodes*, as is *Campylostelium saxicola*. However, none of these other tiny rock mosses has the striate or furrowed capsule of *B. trichodes*. The young capsule of *B. trichodes* is covered by a calyptra that is erect with several basal splits (mitrate); in *Seligeria* the calyptra sits more obliquely on the capsule and has only a single basal split (cucullate). Plants lacking capsules are probably unidentifiable.

Distribution in Ireland

Recent records are from four scattered localities in three vice-counties: Wicklow (River Liffey, NW of Sally Gap, 2010); Leitrim (Dough Mountain above Killea, 2005); W. Donegal (N. slope of Muckish, 2002) and Down (Scrabo Hill quarry, 1933–2002). Old records in areas where it has not been refound recently are from a further five localities: Wicklow (Lough Bray area, 1835 and

1878; Kelly's Glen, 1863); Dublin ('Dublin', 1817); Sligo (Benbulbin, 1879–1937) and Londonderry (Inishgore, W. of Draperstown, 1937).

Ecology and biology

The species grows on steep to vertical or slightly overhanging surfaces of soft to hard siliceous rocks of neutral to strongly acidic reaction. It apparently prefers rather humid or sheltered places, occurring in unshaded sites only on N.-facing slopes. Its substrata have been recorded as sandstone, quartzite, granite and decomposing chert, on boulders, natural outcrops and quarried rocks, over an altitudinal range of at least 100–590 m. The species is reported to occur also on calcareous rock in Britain (Corley in Hill *et al.* 1992) and Norway (Lönnell in Hallingbäck *et al.* 2006), but it has apparently never been found on limestone or chalk in Ireland.

It is a perennial that can be seen in all months of the year. Both sexes occur on the same plant, the female inflorescences at the stem tip, the male inflorescences on short branches (autoicous). Capsules are common, with spores maturing in autumn and early winter. There are no reports of gemmae or tubers.

World distribution

The species occurs widely but rather sparsely in Europe, mainly in mountain regions, from SW Norway and Poland southwards to Portugal and east to the Caucasus.

It is listed as *Critically Endangered* in Switzerland, *Endangered* in Spain and Portugal, *Vulnerable* in Bulgaria and 'declining' in Germany and Norway. Distribution maps showing it is locally frequent in Germany (Meinunger & Schröder 2007) suggest that its treatment as 'Rare' in the *Red List* for Europe as a whole may be unnecessary. It is classified as a Suboceanic Temperate floristic element in Europe. Elsewhere, it is recorded from N. America (New Hampshire, North Carolina, Tennessee and Washington State) and Colombia (Vitt & Spence in FNA 2007). Reports from Australia (Vitt & Spence *loc. cit.*) may be based on *B. intermedium* I.G.Stone (cf. Streimann & Klazenga 2002).

Threats

Threats to the species are poorly understood, but at Scrabo Hill quarry it is clearly at risk from shading of boulders on the quarry floor by growth of scrub and saplings. More generally, its occurrence on predominantly acidic, nutrient-poor substrata may imply that it is vulnerable to eutrophication.

Conservation

The preponderance of old records may suggest *B. trichodes* has declined in Ireland, but it is tiny and easily overlooked, so further bryological surveys may rediscover some of the old sites or disclose additional populations. Scrabo Hill quarry is a protected site where maintaining a viable population of *B. trichodes* will depend on

appropriate habitat management, especially cutting scrub and saplings around the boulders on which it grows. *B. trichodes* is listed as a Northern Ireland Priority Species.

Protected sites with recent records: Dough/Thur Mountains NHA; Muckish Mountain SAC; Scrabo ASSI; Wicklow Mountains SAC; **Unprotected sites with recent records:** none.



River Liffey, south-west of Sally Gap, Co. Wicklow.